

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

RECEIVED

JUL 25 1995

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

In the Matter of)
)
Amendment of the Commission's) RM No. 8653
Rules for Allocation of Spectrum in the)
5 GHz Band to Establish a Wireless)
Component of the National Information)
Infrastructure)

And)
) RM No. 8648
)

In the Matter of)
)
Petition for Rulemaking to Allocate)
the 5.1-5.35 Band and Adopt Service)
Rules for a Shared Unlicensed Personal)
Radio Network) DOCKET FILE COPY ORIGINAL

REPLY COMMENTS OF ANDREW CORPORATION

Andrew Corporation, by its undersigned counsel, hereby submits these reply comments in response to the comments on the above-captioned Petitions. In the initial comments filed in these proceedings, many parties, including telecommunications and computer equipment manufacturers, educators, government organizations, and Internet users, echoed Andrew's support for Apple's proposal to make additional spectrum available for unlicensed uses.^{1/} Many

^{1/} In addition to numerous individual Internet users, supporting comments were filed by AT&T Corporation, American Library Association, Center for Democracy and Technology, Compaq Computer Corporation, Council for State School Officers, Department of Veteran's Affairs, Digital Microwave Corporation, Harris Corporation - Farinon Division, Information Technology Industry Council, Metricom, Inc., Microsoft Computer Corporation, Motorola, Inc., National Education Telecommunications Organization, Nortel, Triangle Coalition for Science and Technology Education, and Wheaton College.

No. of Copies rec'd 05
List A B C D E

parties also supported the Petition filed by the Wireless Information Network Forum ("WINForum") to reallocate 250-350 MHz in the 5.1-5.3 GHz band for high-speed Shared Unlicensed Personal Radio Network "SUPERNet" applications. The numerous supporting comments in these proceedings demonstrate the widespread enthusiasm for creating a cost-effective and convenient means of wireless access to the National Information Infrastructure ("NII"). The comments also demonstrate, however, that the Commission should not grant either Apple's Petition or the WINForum Petition without significant modification to accommodate existing spectrum users and the other current and future spectrum needs.^{2/}

I. THE COMMISSION SHOULD ENCOURAGE NEW UNLICENSED SERVICES

Andrew applauds Apple's efforts to establish new innovative unlicensed uses of the U.S. spectrum. Making spectrum available for unlicensed operations will promote full use of scarce spectrum resources and greater innovation in spectrum-efficient radio technologies. Numerous parties shared Andrew's support for Commission policies that make available new spectrum for

^{2/} In initial comments, Andrew urged the Commission to grant Apple's Petition in part and propose to establish an unlicensed wireless NII service on the 5150-5300 MHz band. In establishing this new unlicensed service, the Commission should ensure that NII data users will have equal and open access to the newly designated spectrum by providing for the necessary operational and technical rules. Numerous other parties recommended that the Commission adopt a modified proposal designed to encourage new unlicensed data uses but accommodate existing and future spectrum uses. See, e.g., Comments of Alcatel Network Systems, Inc., AT&T Corporation, Harris, Metricom, Part 15 Coalition, Fixed Point-to-Point Communications Section, Network Equipment Division of the Telecommunications Industries Association.

unlicensed operations. Educators^{3/}, experts in medicine^{4/}, and Internet users all attested to the public interest benefits that would be made available if the Commission were to designate new spectrum for use in high-speed, high-bandwidth data applications. Many parties also concurred that unlicensed services offer special advantages that benefit the public interest. In particular, unlicensed operations offer the unique benefits of open entry, equal access, innovation, flexibility, independence, spectrum efficiency and low cost.

II. THE PUBLIC INTEREST DOES NOT REQUIRE A REALLOCATION OF 300 MHZ OR MORE AT THIS TIME

Notwithstanding Andrew's enthusiastic support for rules that encourage new unlicensed technologies, Andrew strongly believes that in considering these Petitions, the Commission must carefully weigh the interests of existing spectrum users and manufacturers' investment in the current allocation scheme against the need to disrupt existing users to make way for a new unlicensed services designed to provide wireless NII access. As Andrew stated in its initial comments, the Commission should not propose yet another reallocation plan aimed at spread spectrum and Industrial, Scientific and Medical frequencies at this time. The Commission's recent decision to adopt permanent rules for Location Monitoring Services in PR Docket No. 93-61 and the proposal to reallocate 2.4 GHz frequencies together have inhibited manufacturer and consumer investment in unlicensed spread spectrum technologies operating at these bands.

^{3/} See, e.g., American Library Association, Council for State School Officers, Education Organizations, National Education Telecommunications Association, Triangle Coalition for Science and Technology Education, Wheaton College.

^{4/} See, e.g., Department of Veteran Affairs, Stonybrook Health Sciences Center

The Commission should not now target other spread spectrum frequencies in the absence of overriding public interest reasons.

From Andrew's perspective, manufacturers and consumers of radio technologies require stability and certainty in the Commission's Rules. Commission Rules that provide for unlicensed "services" will encourage manufacturers and technology designers to develop and consumers to use affordable, low power, spectrum efficient devices for widespread consumer and commercial uses only if there is sufficient clarity and certainty in the regulatory (including allocation) rules that define their ability to operate. For that reason, the Commission should refrain from changing its rules, including the spectrum allocation rules, unless a compelling public interest can be demonstrated that warrants the disruption to users and the manufacturing industry that would undoubtedly result from the rule change.

At this time, there is no public interest reason to disturb current uses of and investment in the 5.8 GHz frequencies for the service proposed by Apple.^{5/} Given the impact of the proposed 5.8 GHz reallocation would have on existing band uses and the sizeable reallocation requested, the Commission should not grant Apple's request to reallocate 150 MHz at the 5.8 GHz band at this time. An allocation at 5.8 GHz is not necessary at this time to achieve the multiple public benefits cited by Apple.

If the Commission nevertheless decides to allocate 5.8 GHz frequencies, the Commission should strive to preserve existing uses, including spread spectrum and ISM operations. To that end, the Commission should not impose a new, more restrictive emission mask requirement or

^{5/} The opposing comments filed by the American Radio Relay League, the Northern Amateur Relay Council, and individual amateur operator interests indicate that the Apple proposal does not accommodate these existing spectrum users.

other "protections" or otherwise require modification of equipment operating at the 5.8 GHz band in order to accommodate Apple's proposed service.^{6/} Andrew does support, however, Apple's proposal to permit operations in the "NII" band that would use power levels of up to one Watt and the use of both omnidirectional and directional antennas without limits on EIRP.^{7/}

III. MINIMUM TECHNICAL STANDARDS ARE REQUIRED TO ENSURE THAT THE NII BAND WILL BE AVAILABLE TO ALL UNLICENSED DATA USERS

Numerous parties agreed that any new spectrum made available for unlicensed data use should be open to all data use based on minimum technical standards. (In its Comments, Andrew stated that the Commission should be careful not to adopt rules that would limit the use of new unlicensed spectrum to wireless local area networks or other network-based operations.) In the same vein, Andrew concurs in Metricom's view that the Commission should not adopt the WINForum approach to the extent that WINForum proposes a spectrum sharing protocol that would "prioritize" traffic.^{8/}

The Part 15 Coalition echoed Andrew's view that the Commission's Rules must permit equitable access and spectrum sharing and that other technologies must not be foreclosed from the "NII" band or other spectrum reallocated.^{9/} To ensure that the public will in fact reap the full benefit of reallocating spectrum for NII or SUPERNET uses, it is critical that the

^{6/} See Apple Comments at 22.

^{7/} Id. at 23.

^{8/} Metricom Comments at 8.

^{9/} See Part 15 Coalition Comments at 8. The protected "Part 16" status that Apple proposes must include technical and operational standards that do not limit access to the NII band exclusively to users in a LAN, WAN or "community" network configuration.

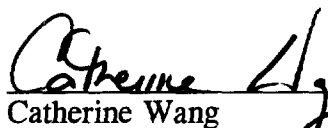
Commission specify that technical standards for use of this band must be developed with the full input of more than the information and computer industry (and Internet experts) proposed by Apple; the telecommunications industry, and in particular, the Part 15 industry, must be a significant part of any "industry" standards-setting process.^{10/} If the Commission grants Apple's Petition, in whole or in part, and proposes to allocate the 5 GHz spectrum to unlicensed NII, it is imperative that the Commission adopt technical and operational rules that will genuinely implement the public benefits of unlicensed service cited by Apple in its Petition.

IV. CONCLUSION

For the reasons discussed above, Andrew Corporation generally supports the proposals to reallocate new spectrum for unlicensed data uses. As stated in its initial comments, however, Andrew opposes reallocation of the 5.8 GHz band at this time and urges the Commission to adopt rules providing for open and equal access to any reallocated spectrum.

Respectfully submitted,

ANDREW CORPORATION

By: 
Catherine Wang
SWIDLER & BERLIN, CHARTERED
3000 K Street, N.W., Suite 300
Washington, D.C. 20007
(202) 424-7837

Dated: July 25, 1995

Its Counsel

^{10/} See Part 15 Coalition Comments at 9-10.

CERTIFICATE OF SERVICE

I hereby certify that on this 25th day of July copies of Andrew Corporation's Reply
Comments were served by first class mail, postage prepaid, on the following:

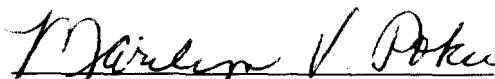
Henry Goldberg
Mary J. Dent
Goldberg, Godles, Wiener & Wright
1229 Nineteenth Street, N.W.
Washington, D.C. 20036

James M. Burger
Director of Government Affairs
Apple Computer, Inc.
1667 K Street, N.W.
Suite 410
Washington, D.C. 20006

David C. Nagel
Senior Vice President
Worldwide Research and Development
Apple Computer, Inc.
Three Infinite Loop, MS: 303-1DN
Cupertino, CA 95014

James F. Lovette
Principal Scientist
Communications Technology
Apple Computer, Inc.
One Infinite Loop, MS: 301-4J
Cupertino, CA 95014

R. Michael Senkowski
Eric W. DeSilva
WILEY, REIN & FIELDING
1776 K St., N.W.
Washington, D.C. 20006


Marilyn V. Poku